EXHIBIT B
Filed Under Seal

Case No. 3:20-cv-06754-WHA
Related to Case No. 3:21-cv-07559-WHA

Sonos v. Google

Dr. Kevin Almeroth

What I Was Asked To Analyze

- Infringement
- Damages-Related Technical Issues
- Validity

Qualifications

Education

Georgia Institute of Technology

Ph.D. Computer Science *1997*

M.S. Computer Science *1994*

B.S. Computer Science *1992*

Academic Appointments

Professor Emeritus, Dept. of Computer Science
UC Santa Barbara (2020-Present)

Professor, Dept. of Computer Science
UC Santa Barbara (1997-2020)

Vice Chair, Dept. of Computer Science
UC Santa Barbara (2001-2005)

Associate Dean, College of Engineering
UC Santa Barbara (2007-2009)

Research Experience

25+ years of experience as a computer networking researcher

Approximately 200 peer-reviewed publications

19 released software systems

Qualifications

Relevant Experience

UCSB

Research themes include:

- Streaming media in the Internet
- Delivery of multimedia content between computing devices
- Wireless networking

IETF

Active in Internet Engineering Task Force (IETF) for 20+ years:

- Developed standards to support multimedia data delivery
- Developed standards to support network monitoring & management

Industry Collaborations

HITACHI, OCCAM NETWORKS, IBM, hp, intel, DF Digital Fountain, real, Redback NETWORKS, LOCKHEED MARTIN, U.S. AIR FORCE, S:1, JUNIPER NETWORKS, CISCO, Sprint, PROCKET NETWORKS

Awards & Honors

- Numerous teaching awards
- Numerous honors and awards for original research
- Recognized as IEEE Fellow

Overview of ’885 and ’966 Patents

Sonos's "Zone Scene" Patents

SONOS

'885

(12) **United States Patent**
Lambourne

(10) **Patent No.: US 10,848,885 B2**
(45) **Date of Patent: *Nov. 24, 2020**

(54) **ZONE SCENE MANAGEMENT**

(71) Applicant: **SONOS, INC.**, Santa Barbara, CA (US)
(72) Inventor: **Robert A. Lambourne**, Santa Barbara, CA (US)
(73) Assignee: **Sonos, Inc.**, Santa Barbara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

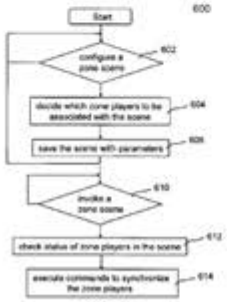
(21) Appl. No.: **16/383,561**
(22) Filed: **Apr. 12, 2019**
(65) **Prior Publication Data**
US 2019/0239008 A1 Aug. 1, 2019
Related U.S. Application Data
(63) Continuation of application No. 15/130,919, filed on Apr. 15, 2016, which is a continuation of application
(Continued)
(51) **Int. Cl.**
G06F 17/00 (2019.01)
H04R 27/00 (2006.01)
(Continued)
(52) **U.S. Cl.**
CPC ***H04R 27/00*** (2013.01); ***G05B 15/02*** (2013.01); ***G06F 3/0482*** (2013.01);
(Continued)
(58) **Field of Classification Search**
CPC H04R 27/00; H04R 3/12; H04R 2227/005; H04R 2430/01; G05B 15/02;
(Continued)

(56) **References Cited**
U.S. PATENT DOCUMENTS
3,956,591 A 5/1976 Gates, Jr.
4,105,974 A 8/1978 Rogers
(Continued)
FOREIGN PATENT DOCUMENTS
CA 2329451 A1 3/2001
CN 1598767 A 3/2005
(Continued)
OTHER PUBLICATIONS
Yamaha DMI Designer 3.5 user manual (Year: 2004).*
(Continued)

Primary Examiner — Paul C McCord

(57) **ABSTRACT**
An example playback device in a first zone of a media playback system receives a first indication that the first zone has been added to a first zone scene including a first preconfigured grouping of zones including the first zone and a second zone. The playback device receives a second indication that the first zone has been added to a second zone scene including a second preconfigured grouping of zones including the first zone and a third zone. After a given one of the first and second zone scenes has been selected for invocation, the playback device receives an instruction to operate in accordance with the given zone scene, and based on the instruction, begins operating in accordance with the given zone scene such that the playback device is configured to play back audio in synchrony with one or more other playback devices in the media playback system.

20 Claims, 11 Drawing Sheets



TX0003
3:20-cv-06754-WHA

SONOS

'966

(12) **United States Patent**
Lambourne

(10) **Patent No.: US 10,469,966 B2**
(45) **Date of Patent: Nov. 5, 2019**

(54) **ZONE SCENE MANAGEMENT**

(71) Applicant: **SONOS, INC.**, Santa Barbara, CA (US)
(72) Inventor: **Robert A. Lambourne**, Santa Barbara, CA (US)
(73) Assignee: **Sonos, Inc.**, Santa Barbara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

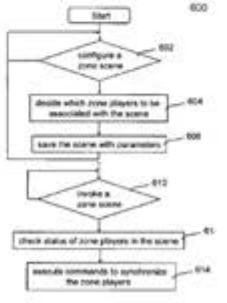
(21) Appl. No.: **16/383,565**
(22) Filed: **Apr. 12, 2019**
(65) **Prior Publication Data**
US 2019/0239009 A1 Aug. 1, 2019
Related U.S. Application Data
(63) Continuation of application No. 15/130,919, filed on Apr. 15, 2016, which is a continuation of application
(Continued)
(51) **Int. Cl.**
G06F 17/00 (2019.01)
H04R 27/00 (2006.01)
(Continued)
(52) **U.S. Cl.**
CPC ***H04R 27/00*** (2013.01); ***G05B 15/02*** (2013.01); ***G06F 3/0482*** (2013.01);
(Continued)
(58) **Field of Classification Search**
CPC H04R 27/00; H04R 3/12; H04R 2227/005; H04R 2430/01; G05B 15/02;
(Continued)

(56) **References Cited**
U.S. PATENT DOCUMENTS
3,956,591 A 5/1976 Gates, Jr.
4,105,974 A 8/1978 Rogers
(Continued)
FOREIGN PATENT DOCUMENTS
CA 2329451 A1 3/2001
CN 1598767 A 3/2005
(Continued)
OTHER PUBLICATIONS
Yamaha DMI Designer 3.5 user manual (Year: 2004).*
(Continued)

Primary Examiner — Paul C McCord

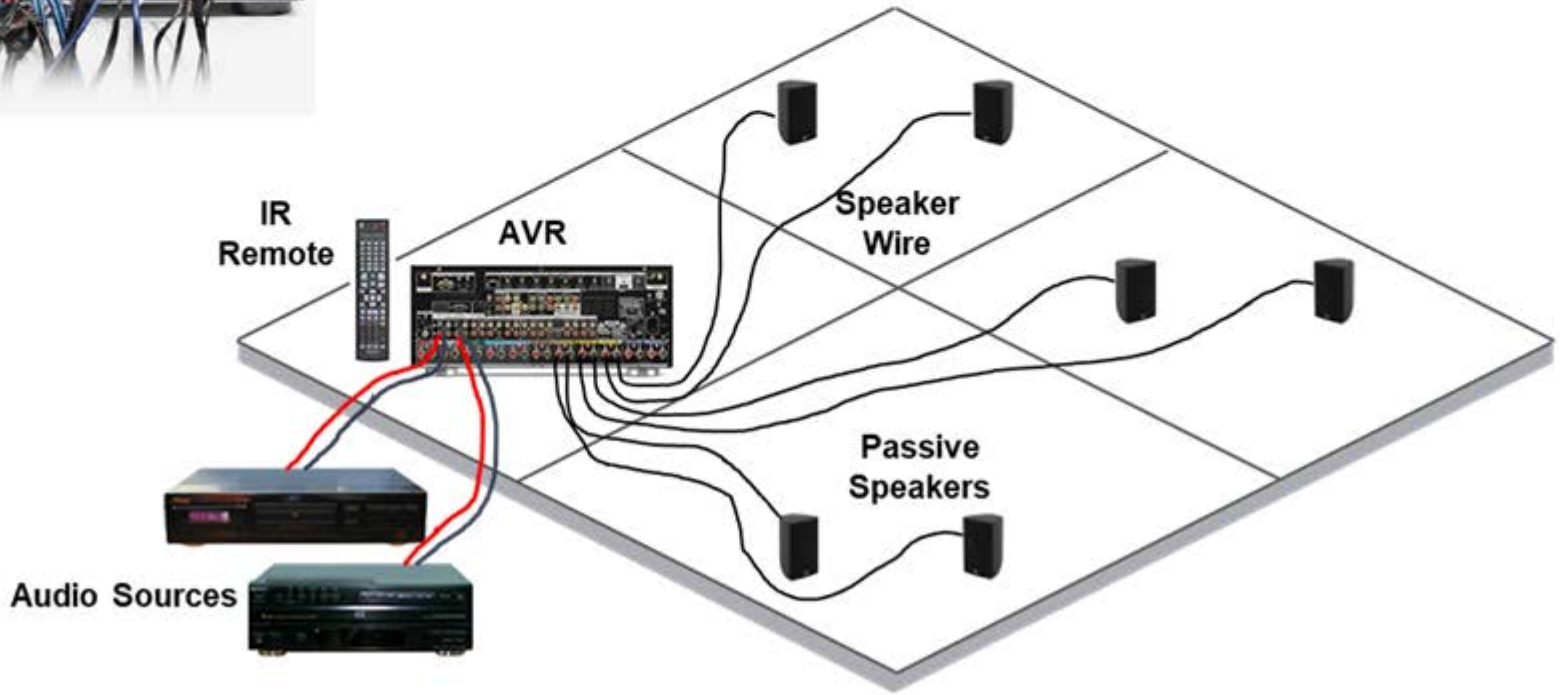
(57) **ABSTRACT**
An example computing device in a media playback system receives a first request to create a first zone scene including a first preconfigured grouping of zones including a first zone and a second zone, and based on the first request, causes creation and storage of the first zone scene. The computing device receives a second request to create a second zone scene including a second preconfigured grouping of zones including the first zone and a third zone, and based on the second request, causes creation and storage of the second zone scene. While displaying a representation of the first zone scene and a representation of the second zone scene, the computing device receives a third request to invoke the first zone scene, and based on the third request, causes the first zone scene to be invoked such that the first zone and the second zone become configured for synchronous playback of media.

20 Claims, 13 Drawing Sheets



TX0001
3:20-cv-06754-WHA

State of the Art – Conventional Home Audio System in 2005



Court's "Zone Scene" Construction

Claim Term	Sonos Patents	Court's Construction
"zone scene"	'885 Patent '966 Patent	**"a previously-saved grouping of zone players according to a common theme"**
"indication that the first zone player has been added to a … zone scene"	'885 Patent	"Indication from the network device that the zone player has been added by the user to a zone scene"

Zone Scene Patents

TX0003
3:20-cv-06754-WHA

TX0001
3:20-cv-06754-WHA

'885 Patent Claim 1

EXHIBIT B - FILED UNDER SEAL

ported from a member (e.g., a controller) to other members in the scene so that the players are caused to synchronize an operation configured in the scene. The operation may cause all players to play back a song in identical or different volumes or to play back a pre-stored file.

One of the features, benefits and advantages in the present invention is to allow sets of related devices (controllers and operating components) to exist as a group without interfering with other components that are potentially visible on the same wired or wireless network. Each of the sets is configured to a theme or a scene.

FIG. **7** shows an example user interface for invoking a zone scene. The user interface of FIG. **7** shows a Zone Menu that includes selectable indications of zone scenes.

FIG. **8** shows another example user interface for invoking a zone scene. FIG. **8** shows a Zone Menu that includes a softkey indicating a Scenes menu. Pressing the Scenes softkey will show the Scenes menu where all the available zone scenes are shown as selectable indications.

The present invention has been described in sufficient detail with a certain degree of particularity. It is understood to those skilled in the art that the present disclosure of embodiments has been made by way of examples only and that numerous changes in the arrangement and combination of parts may be resorted without departing from the spirit and scope of the invention as claimed. While the embodiments discussed herein may appear to include some limitations as to the presentation of the information units, in terms of the format and arrangement, the invention has applicability well beyond such embodiment, which can be appreciated by those skilled in the art. Accordingly, the scope of the present invention is defined by the appended claims rather than the forgoing description of embodiments.

I claim:

1. A first zone player comprising:

a network interface that is configured to communicatively couple the first zone player to at least one data network;

one or more processors;

a non-transitory computer-readable medium; and

program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

(i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

(ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

2. The first zone player of claim **1**, wherein the instruction to operate in accordance with the given one of the first and second zone scenes comprises an instruction to operate in accordance with the first zone scene, and

wherein transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players comprises transitioning from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to play back output media in synchrony with output of media by at least the second zone player.

3. The first zone player of claim **2**, wherein the instruction is a first instruction, and wherein the first zone player further comprises program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

while operating in accordance with the first predefined grouping of zone players, receiving, from the network device over the data network, a second instruction to operate in accordance with the second predefined grouping of zone players; and

based on the second instruction, (a) ceasing to operate in accordance with the first predefined grouping of zone players such that the first zone player is no longer configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player and (b) beginning to operate in accordance with the second predefined grouping of zone players such that the first zone player is configured to coordinate with at least the third zone player to output media in synchrony with output of media by at least the third zone player.

4. The first zone player of claim **2**, wherein the first zone scene

further comprises an indication of predetermined media to be played when the first zone scene is invoked, and wherein the first zone player further comprises program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

'885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

'885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

'885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

TX0003
3:20-cv-06754-WHA

'966 Patent, Claim 1

EXHIBIT B - FILED UNDER SEAL

US 10,469,966 B2

11

ported from a member (e.g., a controller) to other members in the scene so that the players are caused to synchronize an operation configured in the scene. The operation may cause all players to play back a song in identical or different volumes or to play back a pre-stored file.

One of the features, benefits and advantages in the present invention is to allow sets of related devices (controllers and operating components) to exist as a group without interfering with other components that are potentially visible on the same wired or wireless network. Each of the sets is configured to a theme or a scene.

FIG. **7** shows an example user interface for invoking a zone scene. The user interface of FIG. **7** shows a Zone Menu that includes selectable indications of zone scenes.

FIG. **8** shows another example user interface for invoking a zone scene. FIG. **8** shows a Zone Menu that includes a softkey indicating a Scenes menu. Pressing the Scenes softkey will show the Scenes menu where all the available zone scenes are shown as selectable indications.

The present invention has been described in sufficient detail with a certain degree of particularity. It is understood to those skilled in the art that the present disclosure of embodiments has been made by way of examples only and that numerous changes in the arrangement and combination of parts may be resorted without departing from the spirit and scope of the invention as claimed. While the embodiments discussed herein may appear to include some limitations as to the presentation of the information units, in terms of the format and arrangement, the invention has applicability well beyond such embodiment, which can be appreciated by those skilled in the art. Accordingly, the scope of the present invention is defined by the appended claims rather than the forgoing description of embodiments.

I claim:

1. A computing device comprising: one or more processors;

a non-transitory computer-readable medium; and program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene; displaying a representation of the first zone scene and a representation of the second zone scene; and while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

12

2. The computing device of claim **1**, further comprising program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

while the first zone player is configured to coordinate with at least the second zone player to play back media in synchrony with at least the second zone player, receiving a fourth request to invoke the second zone scene; and

based on the fourth request, causing the first zone player to (a) cease to operate in accordance with the first predefined grouping of zone players such that the first zone player is no longer configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player and (b) begin to operate in accordance with the second predefined grouping of zone players such that the first zone player is configured to coordinate with at least the third zone player to output media in synchrony with output of media by at least the third zone player.

3. The computing device of claim **1**, wherein causing storage of the first zone scene comprises causing storage of the first zone scene at a location other than the computing device, and wherein causing storage of the second zone scene comprises causing storage of the second zone scene at the location other than the computing device.

4. The computing device of claim **3**, wherein the location other than the computing device comprises a zone player of the first predefined grouping of zone players.

5. The computing device of claim **1**, wherein the first zone scene further comprises an indication of predetermined media to be played when the first zone scene is invoked, and wherein the computing device further comprises program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

based on the third request, causing the first zone player to coordinate with at least the second zone player to output the predetermined media in synchrony with output of the predetermined media by at least the second zone player.

6. The computing device of claim **1**, wherein the first predefined grouping of zone players does not include the third zone player, and wherein the second predefined grouping of zone players does not include the second zone player.

7. The computing device of claim **1**, further comprising program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

TX0001, Page 40 of 42

'966 Patent, Claim 1

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

'966 Patent, Claim 1

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

TX0001
3:20-cv-06754-WHA

'885 Patent, Claim 1 vs. '966 Patent, Claim 1

'885 Patent, Claim 1

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

'966 Patent, Claim 1

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, …

TX0003 3:20-cv-06754-WHA

TX0001 3:20-cv-06754-WHA

'885 Patent, Claim 1 vs. '966 Patent, Claim 1

'885 Patent, Claim 1

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

'966 Patent, Claim 1

[1.4] while …wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

TX0003

TX0001

'885 Patent, Claim 1 vs. '966 Patent, Claim 1

'885 Patent, Claim 1

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

'966 Patent, Claim 1

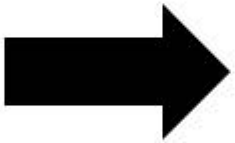
[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

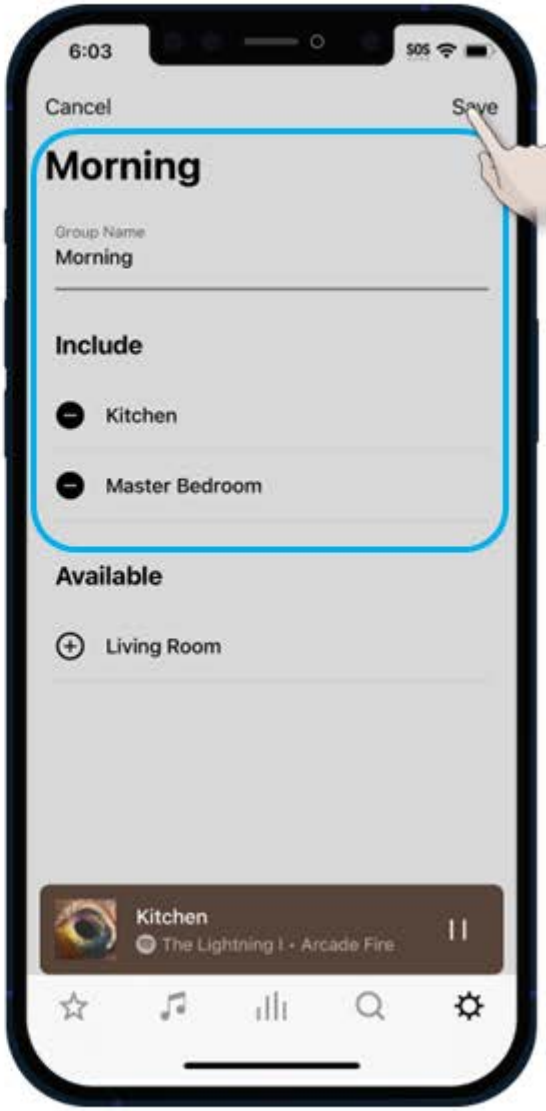
[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Sonos's Current "Home Scene" Grouping

SONOS

Sonos's Current "Add to Scene" Grouping



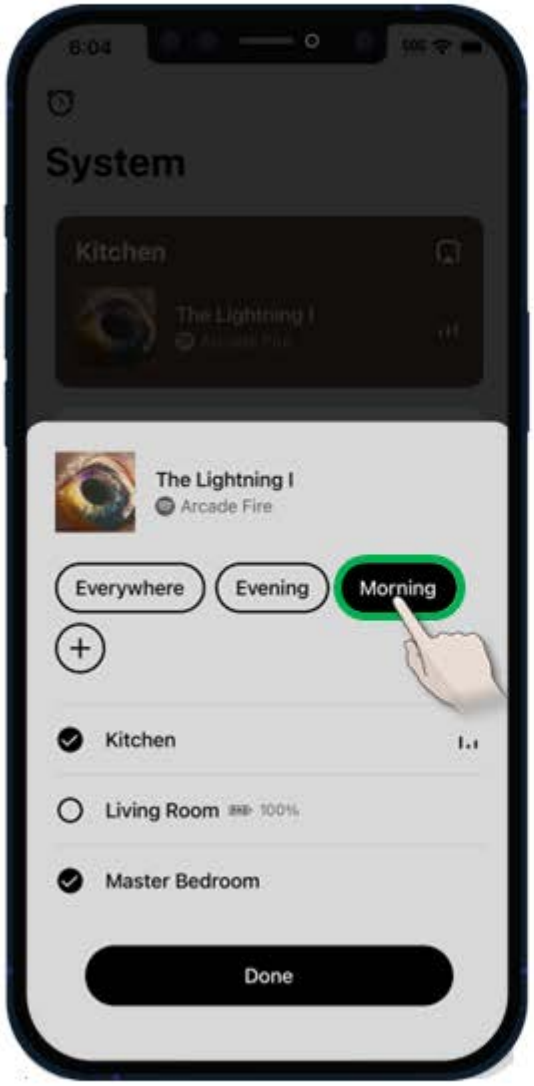


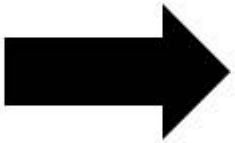
TX0440
3:20-cv-06754-WHA

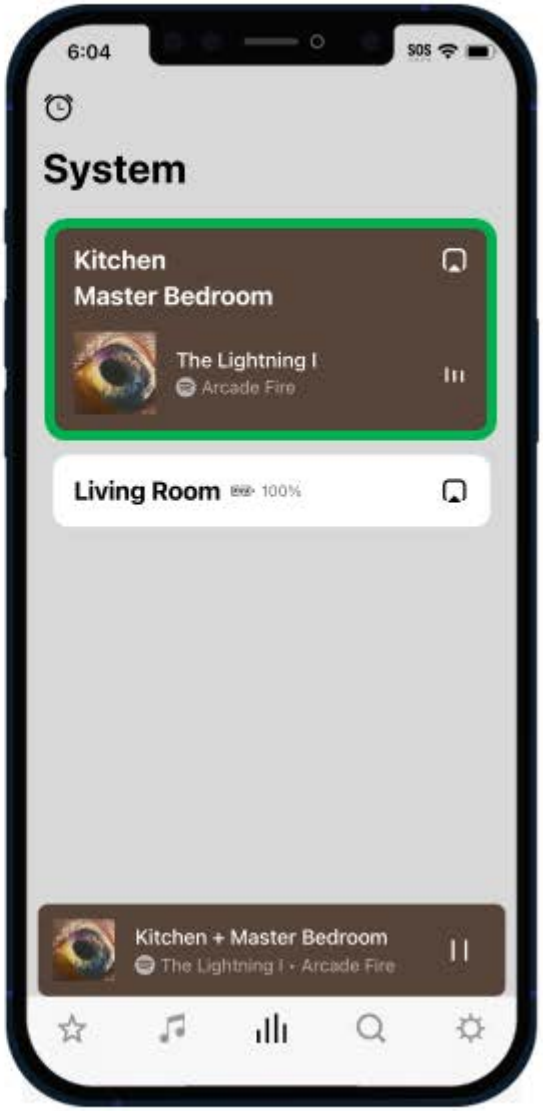
SONOS

PDX2.23

Sonos's Current "Home Scene" Grouping







TX0440
3:20-cv-06754-WHA

SONOS

'885 Accused Products: Google Smart Speakers

Nest Audio

Nest Mini

Nest Hub

Nest Hub Max

Nest Wifi Point

Chromecast

Chromecast Ultra

Chromecast with Google TV

Home

Home Mini

Home Max

Google

'966 Accused Products – Google Home App

Google Home

Google

Representative Computing Devices

Google Pixel Phones

Google Pixel Tablets

Google Pixelbooks

Apple

Samsung

Motorola

OnePlus

Lenovo

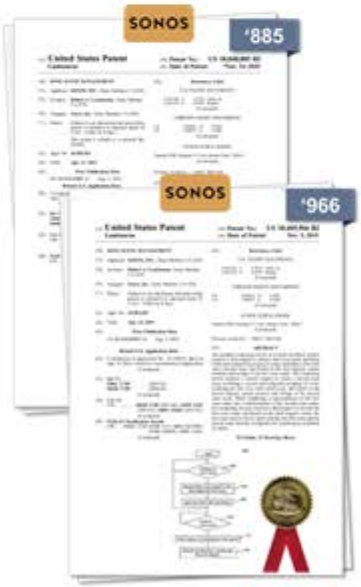
HP

Acer

Asus

Infringement – Methodology

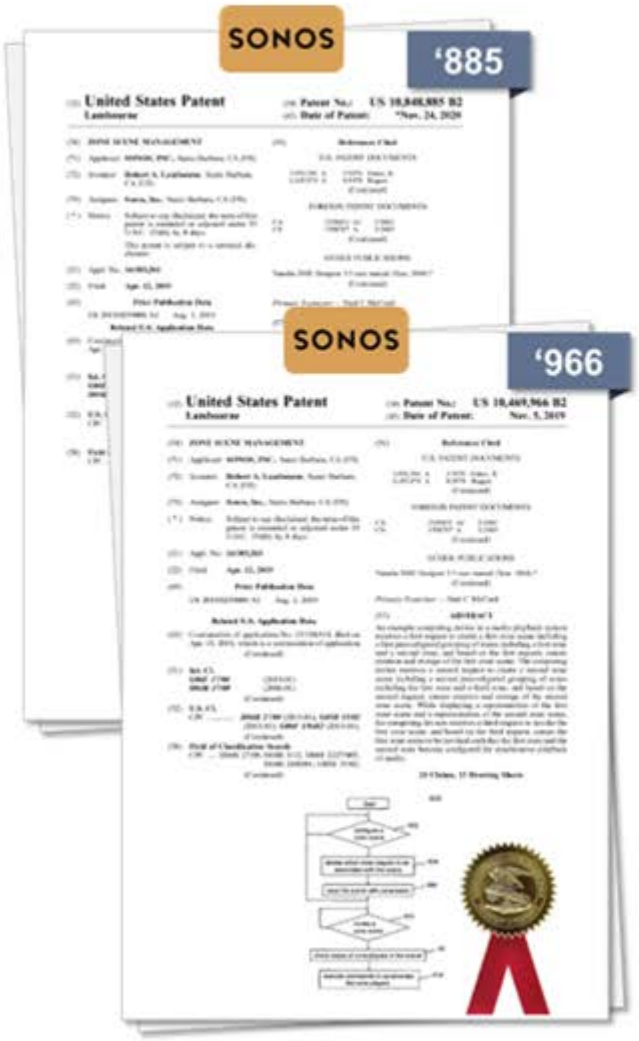
Step 1	**Consider** the claims and their meaning, including the Court's claim constructions
Step 2	**Compare** construed patent claims to Google's products to determine if they meet the elements of the claims



?

Google

Infringement – Methodology



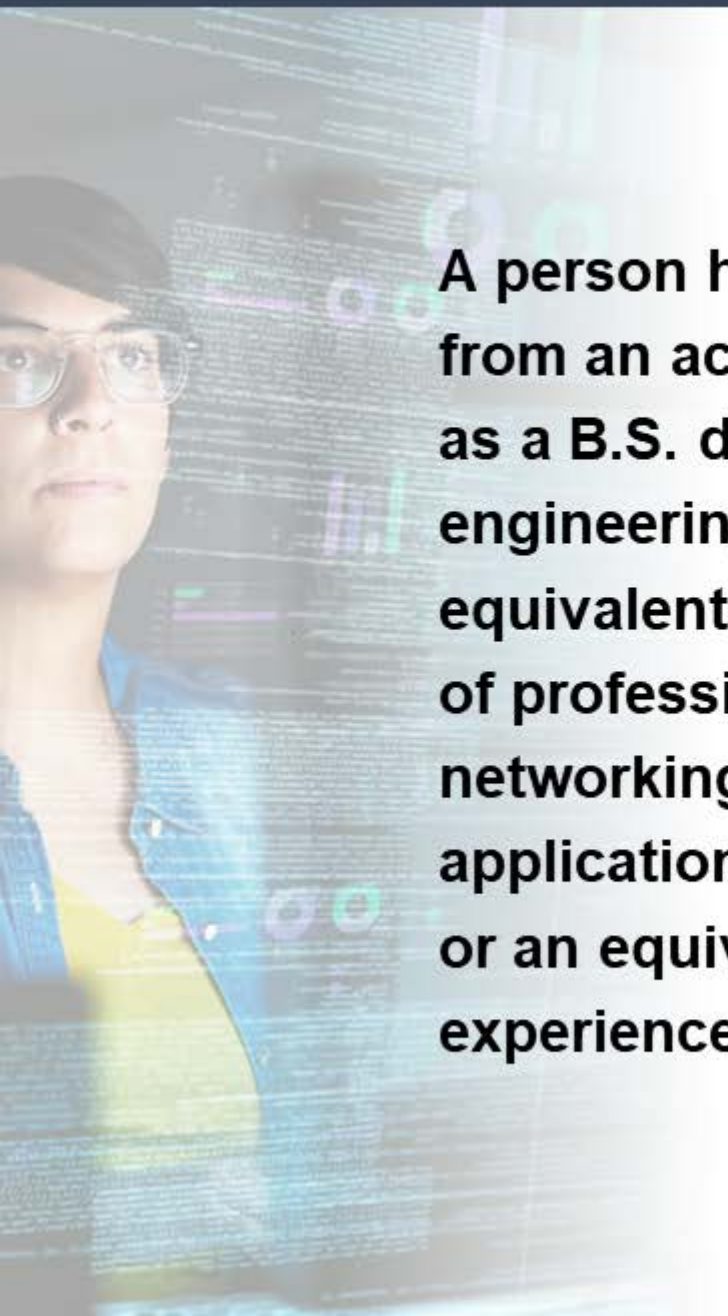
Sonos Patent Documents

- '885 and '966 Patents
- File History
- Claim Constructions

Court's Claim Constructions

Claim Term	Sonos Patents	Court's Construction
"zone scene"	'885 Patent '966 Patent	**"a previously-saved grouping of zone players according to a common theme"**
"indication that the first zone player has been added to a … zone scene"	'885 Patent	**"indication from the network device that the zone player has been added by the user to a zone scene"**

Person of Ordinary Skill in the Art



A person having the equivalent of a 4-year degree from an accredited institution (typically denoted as a B.S. degree) in computer science, computer engineering, electrical engineering, or an equivalent thereof, and approximately 2-4 years of professional experience in the fields of networking and network-based systems or applications, such as consumer audio systems, or an equivalent level of skill, knowledge, and experience.

Infringement – Materials Considered

Sonos Patent Documents

- '885 and '966 Patents
- File History
- Claim Constructions

Google Documents

- Customer-Facing Literature
- Internal Documents
- Google Source Code

Google

Sworn Testimony & Admissions

- Kenneth MacKay, Google Senior Software Engineer
- Justin Pedro, Engineer Manager
- Google's Response to Sonos's Interrogatory No. 13

Google

Google System Testing

- Google Nest Hub Display
- Google Home Mini Speaker
- Google Nest Audio Speaker
- Google Pixel 7 + Google Home, Google YouTube Music, and Spotify Apps
- Google Pixelbook + Google Home, YouTube Music, and Spotify Apps
- iPhone 12 Pro + Google Home, YouTube Music, and Spotify Apps

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present)	?

Infringement of '885 Patent, Claim 1 - Prior Versions

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

Infringement of '885 Patent, Claim 1 - Prior Versions

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

Infringement of '885 Patent, Claim 1 - Prior Versions

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over the data network, a first indication that the first zone player has been added to a first zone scene comprising a predefined grouping of zone players including at least the first zone player and a second zone player that are configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

INFRINGED

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present)	✓

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		Prior Versions (Nov. 2020 – Present)	✓
'966 Patent Claims 1, 2, 4, 6, 8	Google Home + Google 	Prior Versions (Nov. 2019 – Present)	?

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

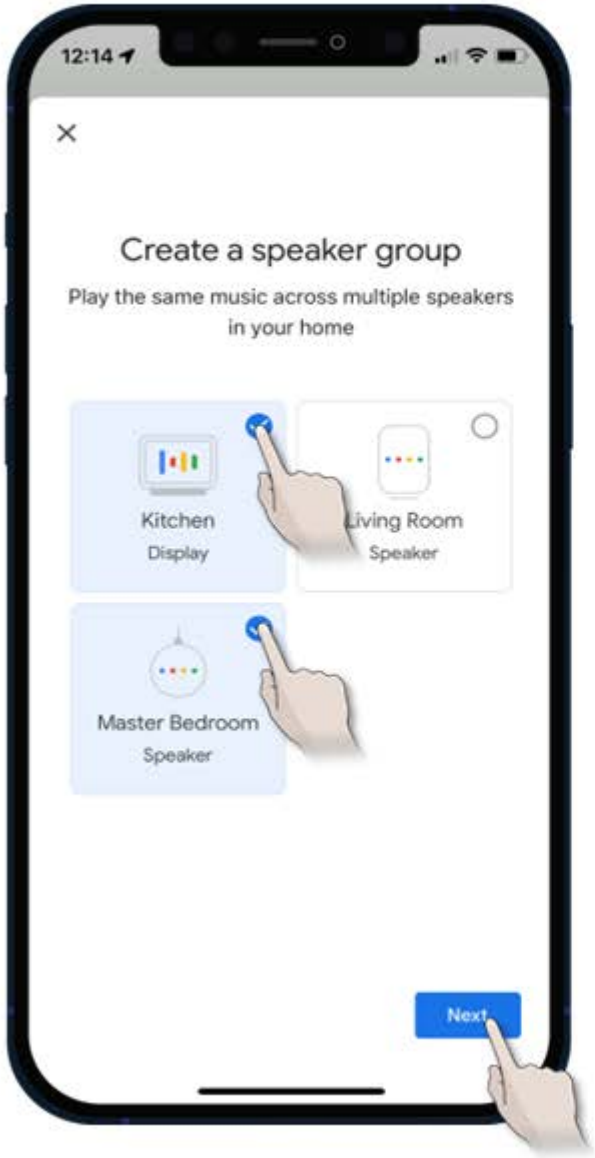
[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

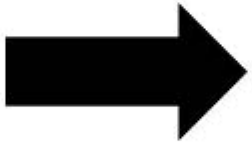
[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Google's "Speaker Group" Technology

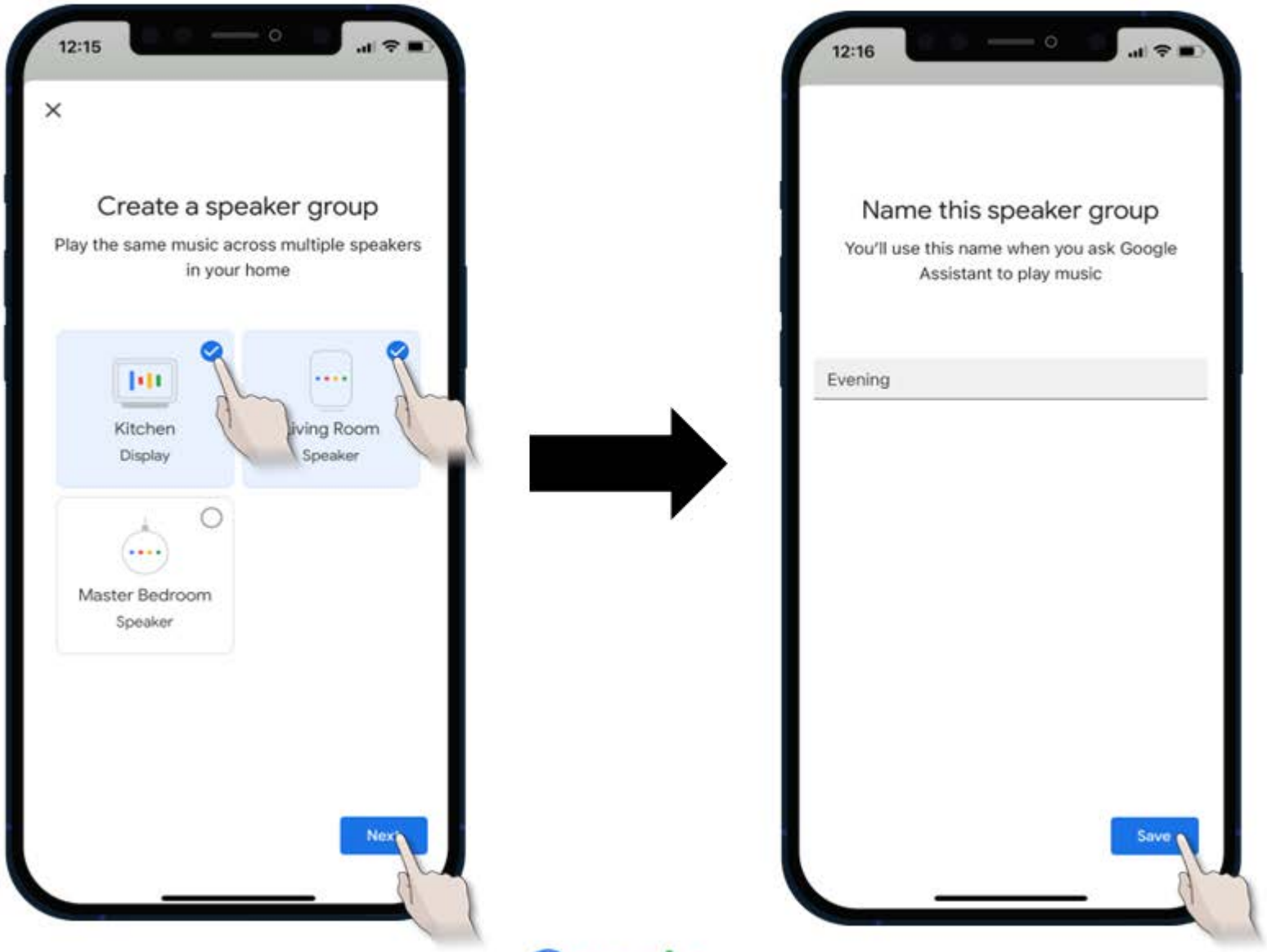




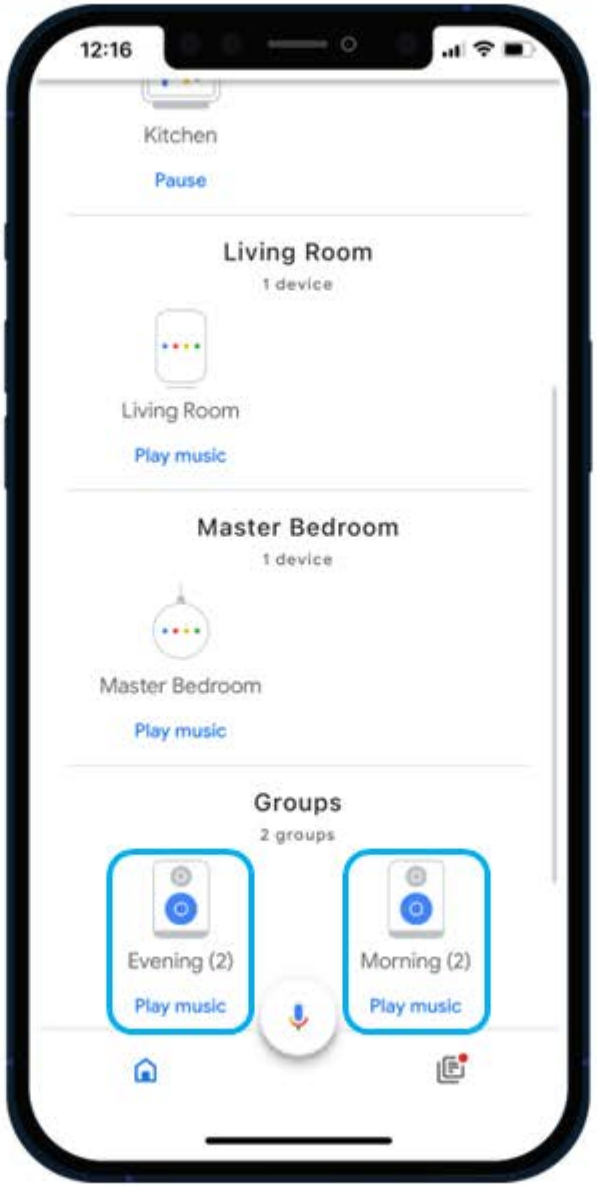
TX0441

Google

Google's "Speaker Group" Technology



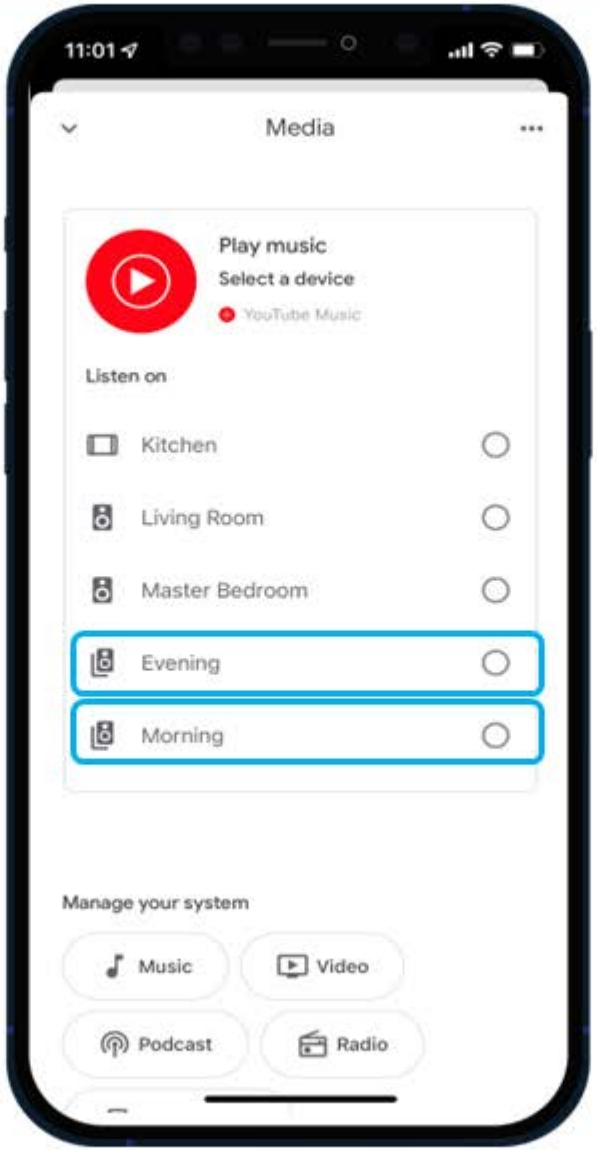
Google's "Speaker Group" Technology



Google

TX0441
3:20-cv-06754-WHA

Google's "Speaker Group" Technology

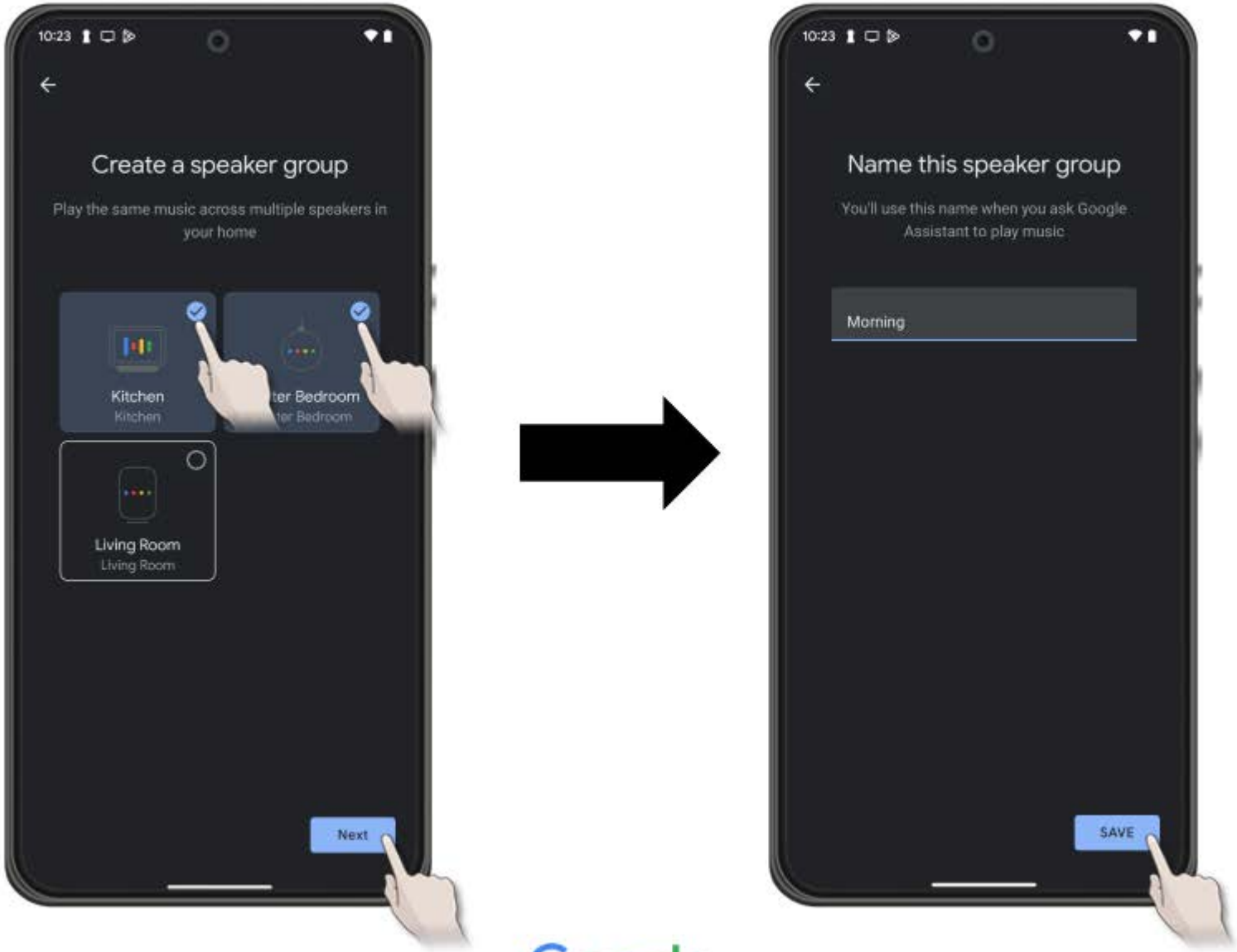


TX0441
3:20-cv-06754-WHA

Google

PDX2.43

Google's "Speaker Group" Technology

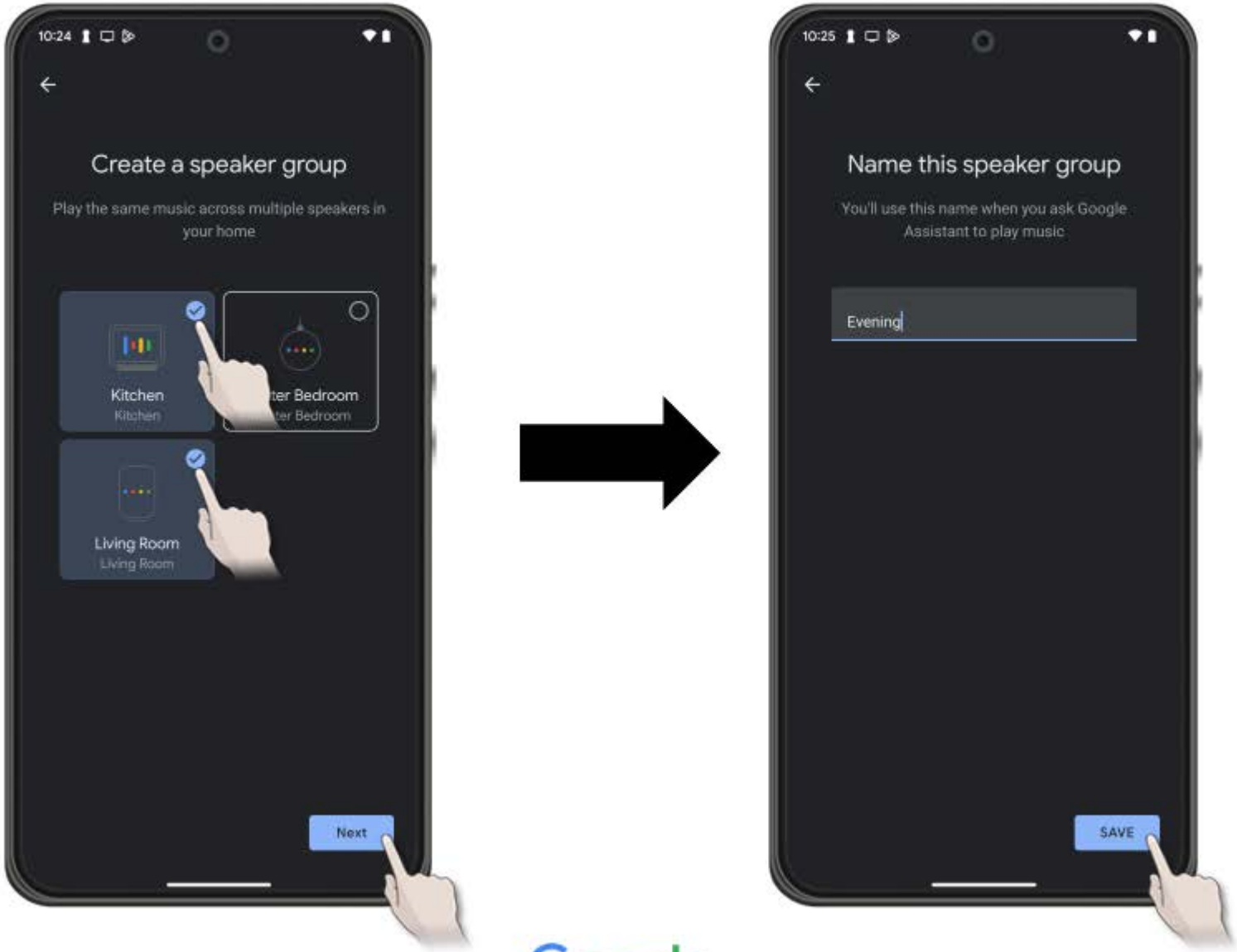


TX0441
3:20-cv-06754-WHA

Google

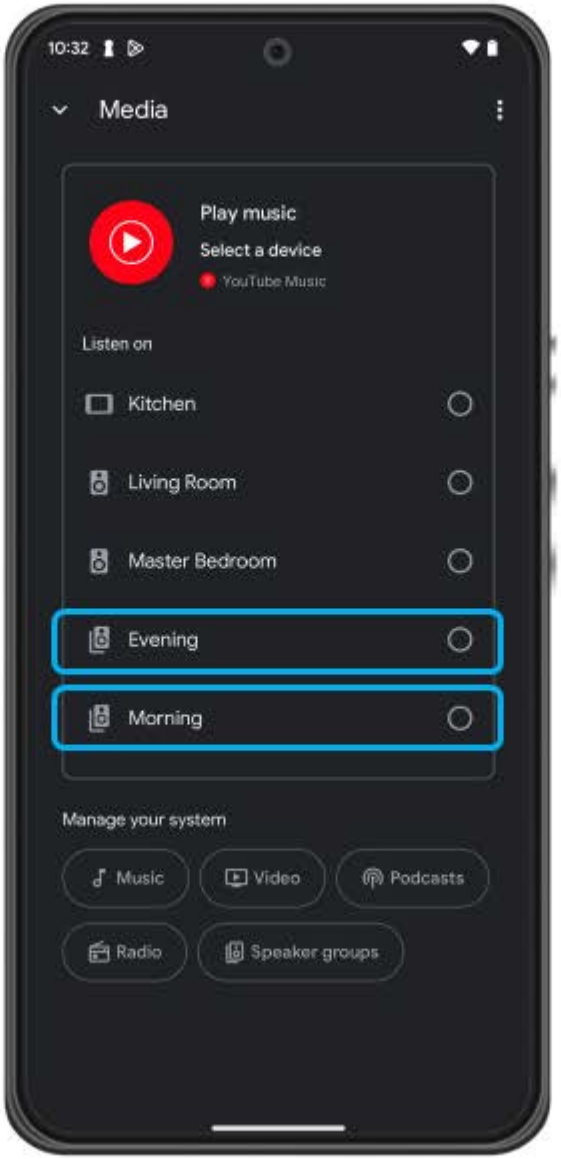
PDX2.44

Google's "Speaker Group" Technology



Google's "Speaker Group" Technology

Google's "Speaker Group" Technology



TX0441
3:20-cv-06754-WHA

Google

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

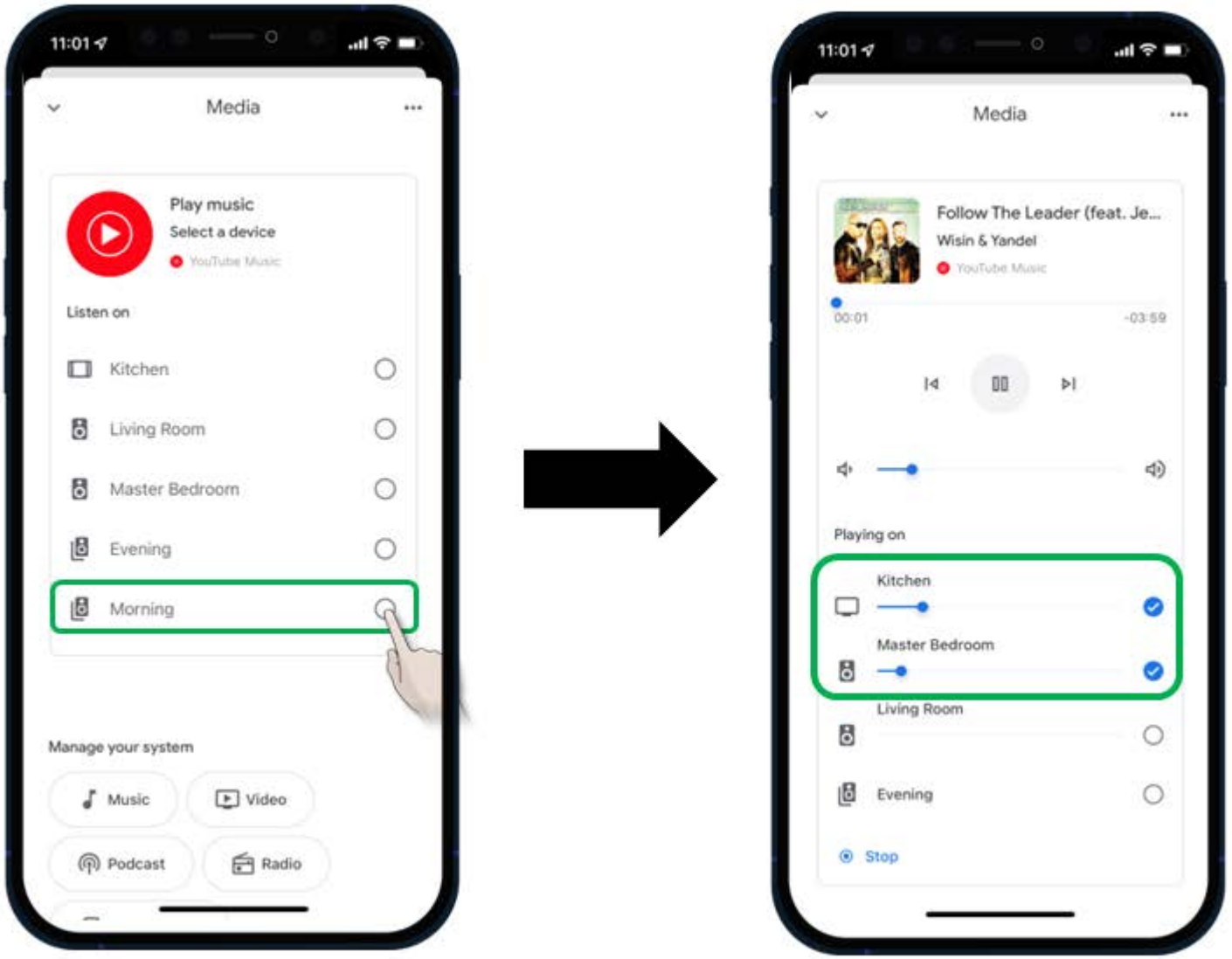
[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

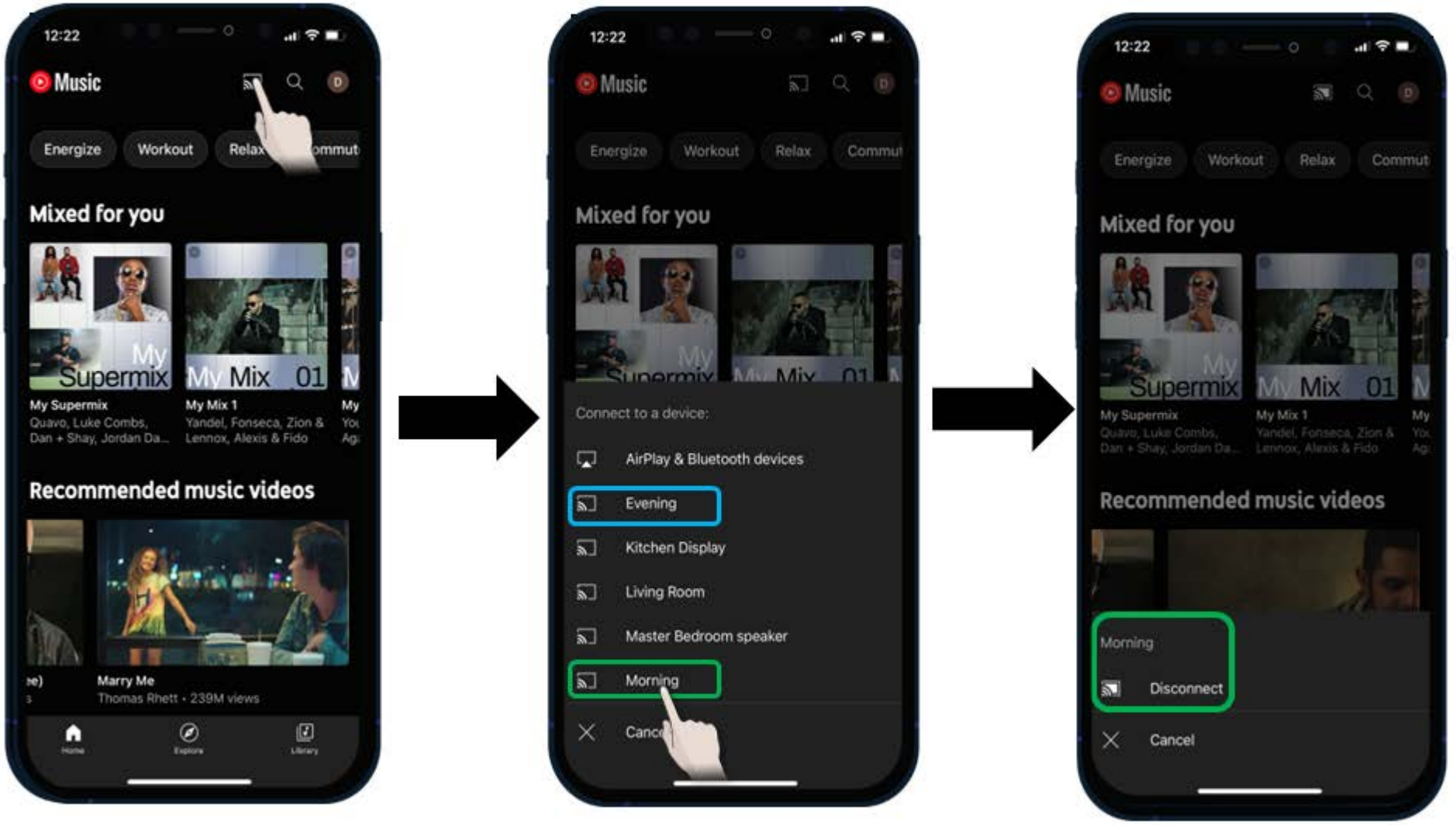
[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

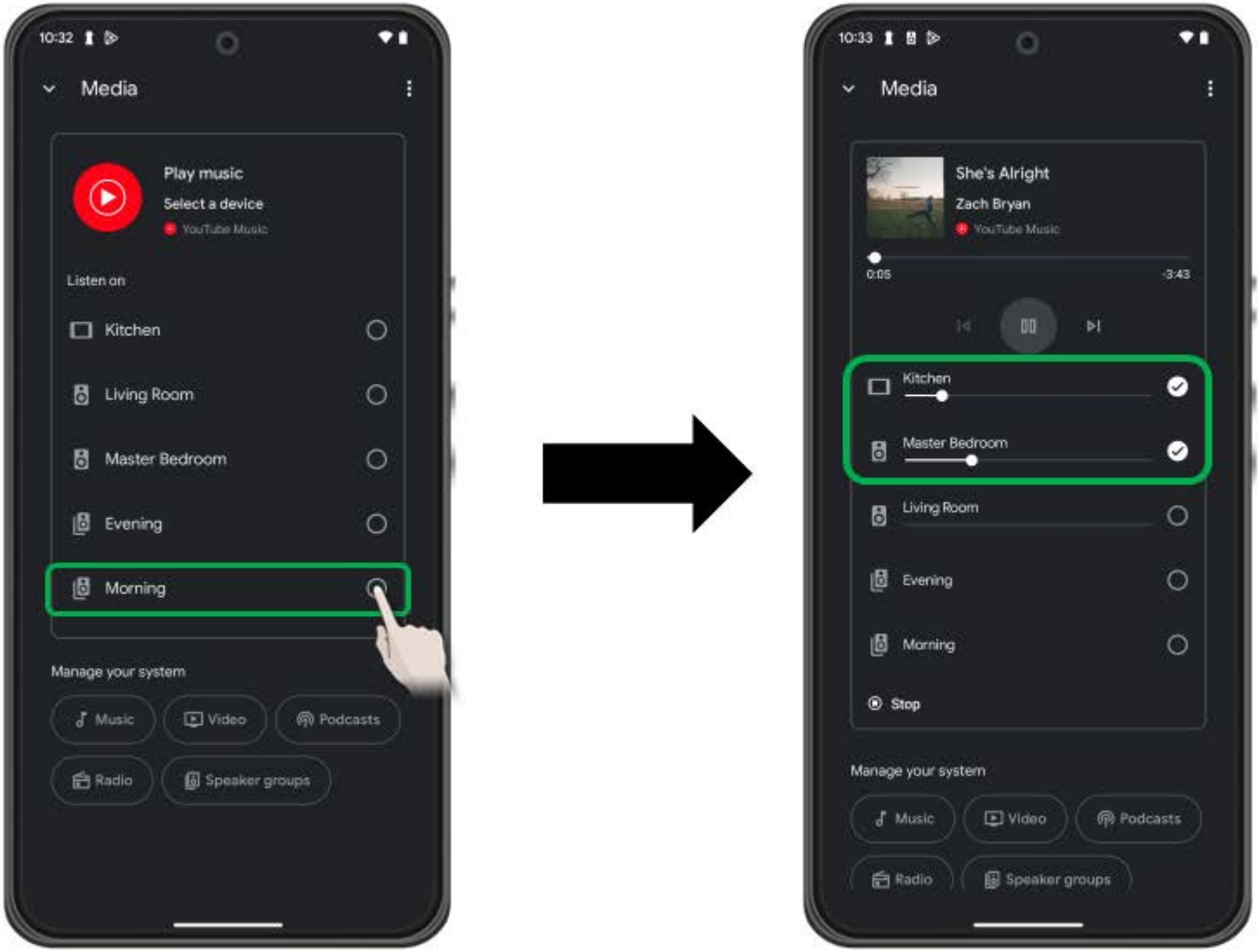
Google's "Speaker Group" Technology



Google's "Speaker Group" Technology



Google's "Speaker Group" Technology



TX0441
3:20-cv-06754-WHA

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is operating in a standalone mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Infringement of '966 Patent, Claim 1 - Prior Versions

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising [illegible] zone player and at least two other zone players, wherein the first zone player is operating in a stand[illegible] mode in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a [illegible] zone scene co[illegible] a [illegible] pre[illegible] grouping of zone players including at least the [illegible] player and a co[illegible] pla[illegible] configured for synchronous playback [illegible] media when the [illegible] in[illegible];

[1.6] ba[illegible] on the first requ[illegible], c[illegible] zo[illegible] ii[illegible] using [illegible] ation of the first zone scene to be [illegible] to [illegible] ne[illegible] au[illegible] first zone scene,

[1.7] [illegible] s[illegible] nd [illegible] s[illegible] d [illegible] using a second predef[illegible] grouping of zone [illegible] a[illegible] t[illegible] st[illegible] ne[illegible] d a third zone player that [illegible] to be configured for synch[illegible] us[illegible] of [illegible] dia w[illegible] t[illegible] zone scene is invok[illegible] wherein the third zone player is differe[illegible] an[illegible] d z[illegible] play[illegible];

[1.8] ba[illegible] on [illegible] s[illegible] d request, i) causing [illegible] of the second zone scene, ii) causing an indication of the seco[illegible] one [illegible] to be trans[illegible] to the first zone player, and iii) causing storage of the second zone scen[illegible];

[1.9] displ[illegible] a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

INFRINGED

PDX2.54

Infringement of '966 Patent, Claim 2 - Prior Versions

'966 Patent, Claim 2

[2.0] The computing device of claim 1, further comprising program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:	✓
[2.1] while the first zone player is configured to coordinate with at least the second zone player to play back media in synchrony with at least the second zone player, receiving a fourth request to invoke the second zone scene; and	✓
[2.2] based on the fourth request, causing the first zone player to (a) cease to operate in accordance with the first predefined grouping of zone players such that the first zone player is no longer configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player and (b) begin to operate in accordance with the second predefined grouping of zone players such that the first zone player is configured to coordinate with at least the third zone player to output media in synchrony with output of media by at least the third zone player.	✓

Infringement of '966 Patent, Claim 4 - Prior Versions

'966 Patent, Claim 3

[3.0] The computing device of claim 1,	✓
[3.1] wherein causing storage of the first zone scene comprises causing storage of the first zone scene at a location other than the computing device, and	✓
[3.2] wherein causing storage of the second zone scene comprises causing storage of the second zone scene at the location other than the computing device.	✓

'966 Patent, Claim 4

[4.0] The computing device of claim 3,	✓
[4.1] wherein the location other than the computing device comprises a zone player of the first predefined grouping of zone players.	✓

Infringement of '966 Patent, Claims 6 and 8 - Prior Versions

'966 Patent, Claim 6

[6.0] The computing device of claim 1,	✓
[6.1] wherein the first predefined grouping of zone players does not include the third zone player, and	✓
[6.2] wherein the second predefined grouping of zone players does not include the second zone player.	✓

'966 Patent, Claim 8

[8.0] The computing device of claim 1,	✓
[8.1] wherein receiving the first request comprises receiving a first set of one or more inputs via a user interface of the computing device,	✓
[8.2] wherein receiving the second request comprises receiving a second set of one or more inputs via the user interface, and	✓
[8.3] wherein receiving the third request comprises receiving a third set of one or more inputs via the user interface.	✓

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		Prior Versions (Nov. 2020 – Present)	✓
'966 Patent Claims 1, 2, 4, 6, 8	 + 	**Prior Versions** (Nov. 2019 – Present)	✓

Infringement Conclusion

SONOS

'885

(12) **United States Patent**
Lambourne

(10) **Patent No.: US 10,848,885 B2**
(45) **Date of Patent: *Nov. 24, 2020**

(54) **ZONE SCENE MANAGEMENT**

(71) Applicant: **SONOS, INC.**, Santa Barbara, CA (US)

(72) Inventor: **Robert A. Lambourne**, Santa Barbara, CA (US)

(73) Assignee: **Sonos, Inc.**, Santa Barbara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 16/383,565

(22) Filed: Apr. 12, 2019

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,956,591 A 5/1976 Gates, Jr.
4,105,974 A 8/1978 Rogers
(Continued)

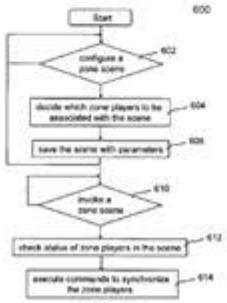
FOREIGN PATENT DOCUMENTS

CA
CN
(Continued)

ABSTRACT

...playback system receives ... zone scene ... has been added to a ... zone scene including a first ... zones including the first zone and ... The playback device receives a second ... that the first zone has been added to a second zone scene including a second preconfigured grouping of zones including the first zone and a third zone. After a given one of the first and second zone scenes has been selected for invocation, the playback device receives an instruction to operate in accordance with the given zone scene, and based on the instruction, begins operating in accordance with the given zone scene such that the playback device is configured to play back audio in synchrony with one or more other playback devices in the media playback system.

20 Claims, 11 Drawing Sheets



INFRINGED

TX0003
3:20-cv-06754-WHA

SONOS

'966

(12) **United States Patent**
Lambourne

(10) **Patent No.: US 10,469,966 B2**
(45) **Date of Patent: Nov. 5, 2019**

(54) **ZONE SCENE MANAGEMENT**

(71) Applicant: **SONOS, INC.**, Santa Barbara, CA (US)

(72) Inventor: **Robert A. Lambourne**, Santa Barbara, CA (US)

(73) Assignee: **Sonos, Inc.**, Santa Barbara, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 16/383,565

(22) Filed: Apr. 12, 2019

(56) **References Cited**

U.S. PATENT DOCUMENTS

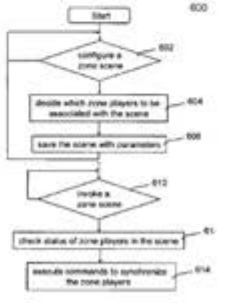
3,956,591 A 5/1976 Gates, Jr.
4,105,974 A 8/1978 Rogers
(Continued)

FOREIGN PATENT DOCUMENTS

CA
CN
(Continued)

...playback device in a ... first ... zone ... second ... zone scene including a second preconfigured grouping of zones including the first zone and a third zone, and based on the second request, causes creation and storage of the second zone scene. While displaying a representation of the first zone scene and a representation of the second zone scene, the computing device receives a third request to invoke the first zone scene, and based on the third request, causes the first zone scene to be invoked such that the first zone and the second zone become configured for synchronous playback of media.

20 Claims, 13 Drawing Sheets



INFRINGED

TX0001
3:20-cv-06754-WHA

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present) **New Version** (Dec. 2022 – Present)	✓ ?
'966 Patent Claims 1, 2, 4, 6, 8		**Prior Versions** (Nov. 2019 – Present) **New Version** (Dec. 2022 – Present)	✓ ?

Infringement – New Version

```
base::flat_set<std::string> group_uuids({virtual_group_uuid_});
  for (const auto& g : local_groups) {
    group_uuids.insert(g.uuid);
    auto it = groups_.find(g.uuid);
    if (it == groups_.end()) {
      StopCurrentApp();
      AddGroup(g);
    } else if (it->second->Reconfigure(g)) {
      SaveGroupConfig(g);
    } else {
      continue;
    }
    groups_changed = true;
```

Kenneth MacKay

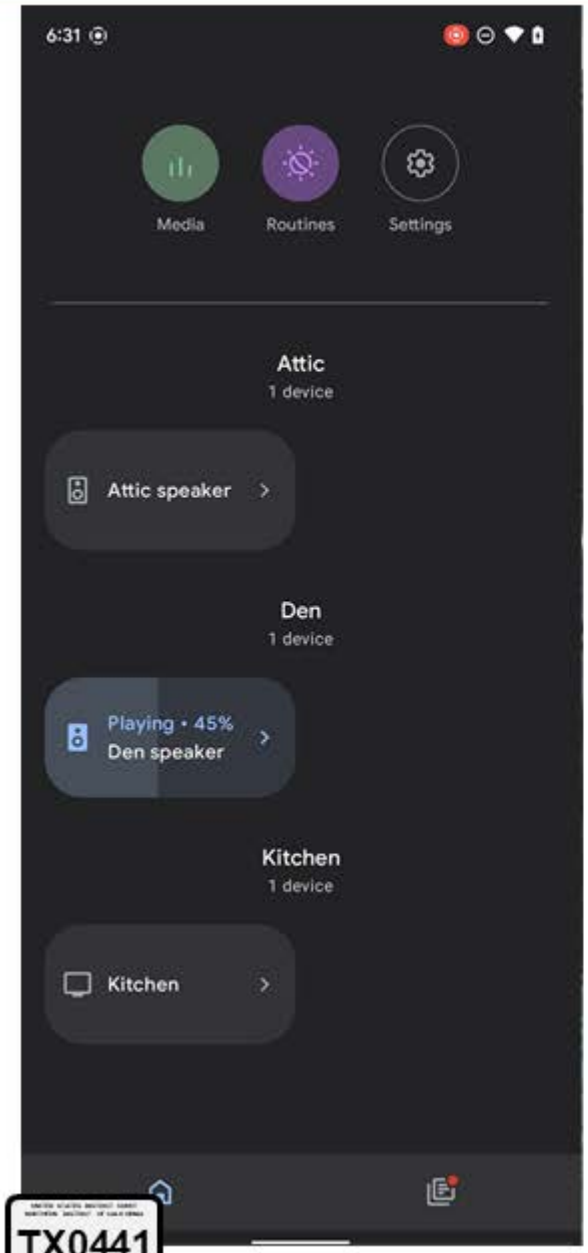
Google Senior Software Engineer

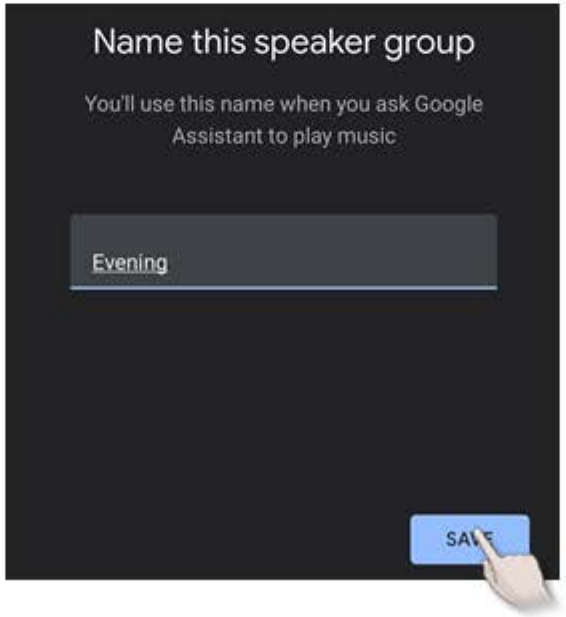
TX0444 3:20-cv-06754-WHA

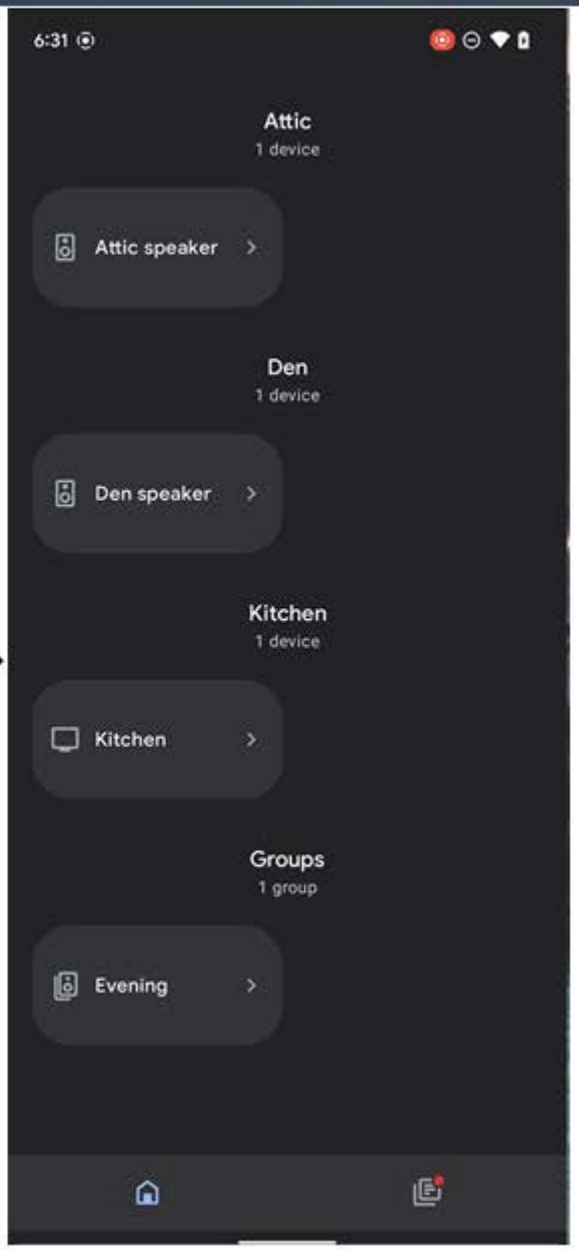
TX1055 3:20-cv-06754-WHA

Google

Infringement – New Version



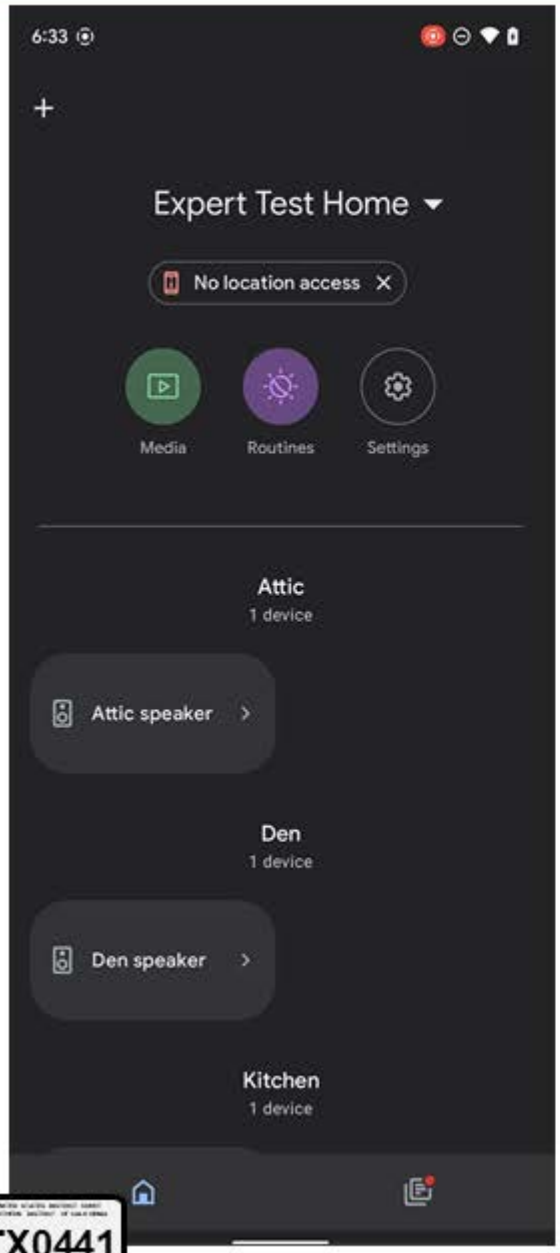


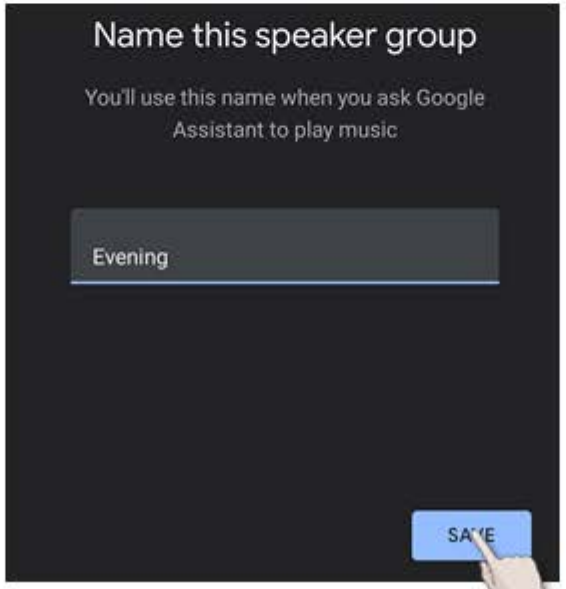


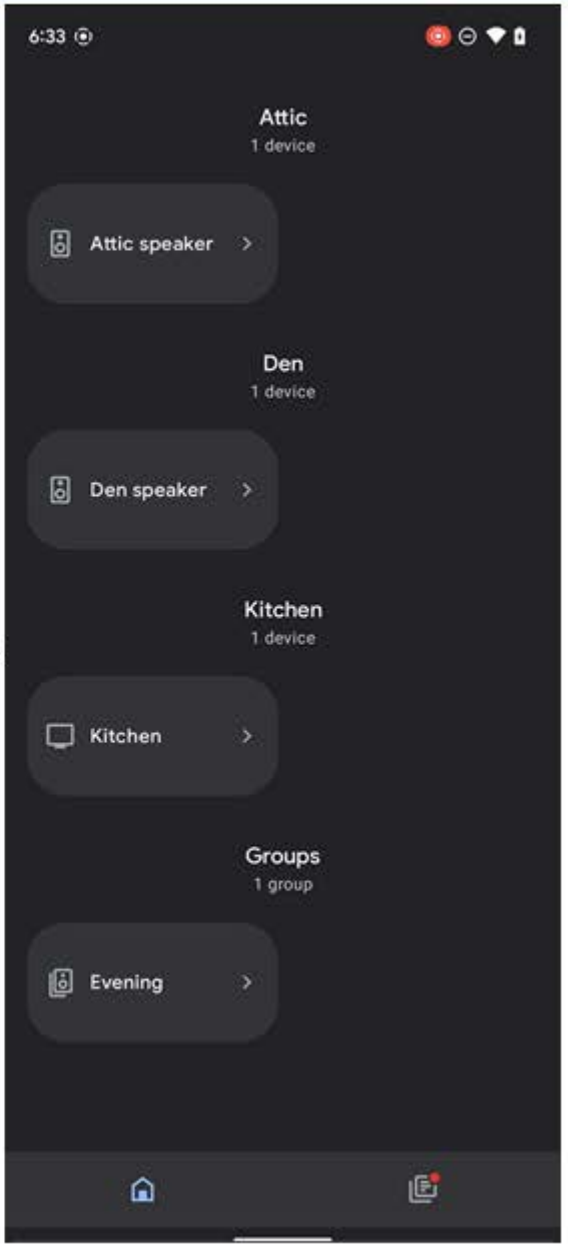
TX0441

PDX2.62

Infringement – New Version







TX0441
3:20-cv-06754-WHA

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present) **New Version** (Dec. 2022 – Present)	✓ ?
'966 Patent Claims 1, 2, 4, 6, 8		**Prior Versions** (Nov. 2019 – Present) **New Version** (Dec. 2022 – Present)	✓ ?

Infringement of '885 Patent, Claim 1 - New Version

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a **standalone mode** in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, **continuing to operate in the standalone mode** until a given one of the first and second zone scenes has been selected for invocation; ?

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

Infringement of '885 Patent, Claim 1 - New Version

[1.0] A first zone player comprising:

[1.1] a network interface that is configured to communicatively couple the first zone player to at least one data network;

[1.2] one or more processors;

[1.3] a non-transitory computer-readable medium; and

[1.4] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

[1.5] while operating in a **standalone mode** in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

[1.6] (i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

[1.7] (ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

[1.8] after receiving the first and second indications, **continuing to operate in the standalone mode** until a given one of the first and second zone scenes has been selected for invocation;

[1.9] after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

[1.10] based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present) **New Version** (Dec. 2022 – Present)	✓ ✓
'966 Patent Claims 1, 2, 4, 6, 8		**Prior Versions** (Nov. 2019 – Present) **New Version** (Dec. 2022 – Present)	✓

Infringement Assignment

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		Prior Versions (Nov. 2020 – Present) New Version (Dec. 2022 – Present)	✓ ✓
'966 Patent Claims 1, 2, 4, 6, 8	Google Home +  Google	Prior Versions (Nov. 2019 – Present) New Version (Dec. 2022 – Present)	✓ ?

Infringement of '966 Patent, Claim 1 - New Version

[1.0] A computing device comprising: ✓

[1.1] one or more processors; ✓

[1.2] a non-transitory computer-readable medium; and ✓

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising: ✓

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is **operating in a standalone mode** in which the first zone player is configured to play back media individually: ✓

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; ✓

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene; ?

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player; ✓

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene; ?

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and ✓

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and ✓

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player. ✓

Infringement of '966 Patent, Claim 1 - New Version

[1.0] A computing device comprising:

[1.1] one or more processors;

[1.2] a non-transitory computer-readable medium; and

[1.3] program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:

[1.4] while serving as a controller for a networked media playback system comprising a first zone player and at least two other zone players, wherein the first zone player is **operating in a standalone mode** in which the first zone player is configured to play back media individually:

[1.5] receiving a first request to create a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked;

[1.6] based on the first request, i) causing creation of the first zone scene, ii) causing an indication of the first zone scene to be transmitted to the first zone player, and iii) causing storage of the first zone scene;

[1.7] receiving a second request to create a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the third zone player is different than the second zone player;

[1.8] based on the second request, i) causing creation of the second zone scene, ii) causing an indication of the second zone scene to be transmitted to the first zone player, and iii) causing storage of the second zone scene;

[1.9] displaying a representation of the first zone scene and a representation of the second zone scene; and

[1.10] while displaying the representation of the first zone scene and the representation of the second zone scene, receiving a third request to invoke the first zone scene; and

[1.11] based on the third request, causing the first zone player to transition from operating in the standalone mode to operating in accordance with the first predefined grouping of zone players such that the first zone player is configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player.

Infringement of '966 Patent, Claim 2 - New Version

'966 Patent, Claim 2

[2.0] The computing device of claim 1, further comprising program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the computing device to perform functions comprising:	✓
[2.1] while the first zone player is configured to coordinate with at least the second zone player to play back media in synchrony with at least the second zone player, receiving a fourth request to invoke the second zone scene; and	✓
[2.2] based on the fourth request, causing the first zone player to (a) cease to operate in accordance with the first predefined grouping of zone players such that the first zone player is no longer configured to coordinate with at least the second zone player to output media in synchrony with output of media by at least the second zone player and (b) begin to operate in accordance with the second predefined grouping of zone players such that the first zone player is configured to coordinate with at least the third zone player to output media in synchrony with output of media by at least the third zone player.	✓

Infringement of '966 Patent, Claim 4 - New Version

'966 Patent, Claim 3

[3.0] The computing device of claim 1,	✓
[3.1] wherein causing storage of the first zone scene comprises causing storage of the first zone scene at a location other than the computing device, and	✓
[3.2] wherein causing storage of the second zone scene comprises causing storage of the second zone scene at the location other than the computing device.	✓

'966 Patent, Claim 4

[4.0] The computing device of claim 3,	✓
[4.1] wherein the location other than the computing device comprises a zone player of the first predefined grouping of zone players.	✓

Infringement of '966 Patent, Claims 6 and 8 – New Version

'966 Patent, Claim 6

[6.0] The computing device of claim 1,	✓
[6.1] wherein the first predefined grouping of zone players does not include the third zone player, and	✓
[6.2] wherein the second predefined grouping of zone players does not include the second zone player.	✓

'966 Patent, Claim 8

[8.0] The computing device of claim 1,	✓
[8.1] wherein receiving the first request comprises receiving a first set of one or more inputs via a user interface of the computing device,	✓
[8.2] wherein receiving the second request comprises receiving a second set of one or more inputs via the user interface, and	✓
[8.3] wherein receiving the third request comprises receiving a third set of one or more inputs via the user interface.	✓

Infringement – Conclusion

Asserted Claims	Accused Google Products	Version	Google Infringes?
'885 Patent Claim 1		**Prior Versions** (Nov. 2020 – Present) **New Version** (Dec. 2022 – Present)	✓ ✓
'966 Patent Claims 1, 2, 4, 6, 8		**Prior Versions** (Nov. 2019 – Present) **New Version** (Dec. 2022 – Present)	✓ ✓

Damages-Related Technical Issues

- Non-Infringing Alternatives
- Technical Comparability
- Technical Importance

Non-Infringing Alternatives

Non-Infringing Alternatives – Assignment

'885 Patent Claim 1	**Non-Infringing Alternatives?** ?
'966 Patent Claims 1, 2, 4, 6, 8	**Non-Infringing Alternatives?** ?

Non-Infringing Alternatives – Requirements

1) **Avoids** infringement of the '885 and '966 Patents

2) **Commercially** acceptable

3) **Available** to Google as of first infringement

Non-Infringing Alternatives – Materials Considered

Sonos Patent Documents

- '885 and '966 Patents
- File History
- Claim Constructions

Google's Proposed Alternatives

- Google's Response to Interrogatory No. 18
- Expert Reports of **Dr. Schonfeld**, Google Expert

Google Documents and Testimony

- Internal Documents / Emails
- Google Marketing Materials
- Google Promotional Materials
- Testimony of **Tomer Shekel**, a Google Product Manager

Non-Infringing Alternatives – Conclusion

'885 Patent Claim 1	**Non-Infringing Alternatives?**	
'966 Patent Claims 1, 2, 4, 6, 8	**Non-Infringing Alternatives?**	

Technical Comparability

Technical Comparability – Assignment

Asserted Claims	IFTTT Applets	Comparable?
'885 Patent Claim 1		?
'966 Patent Claims 1, 2, 4, 6, 8		?

Technical Comparability – Framework

- Must be **sufficiently related** to the case at hand
- Does not require **identity of circumstances**
- Necessarily involves an element of **approximation and uncertainty**

Technical Comparability – Materials Considered

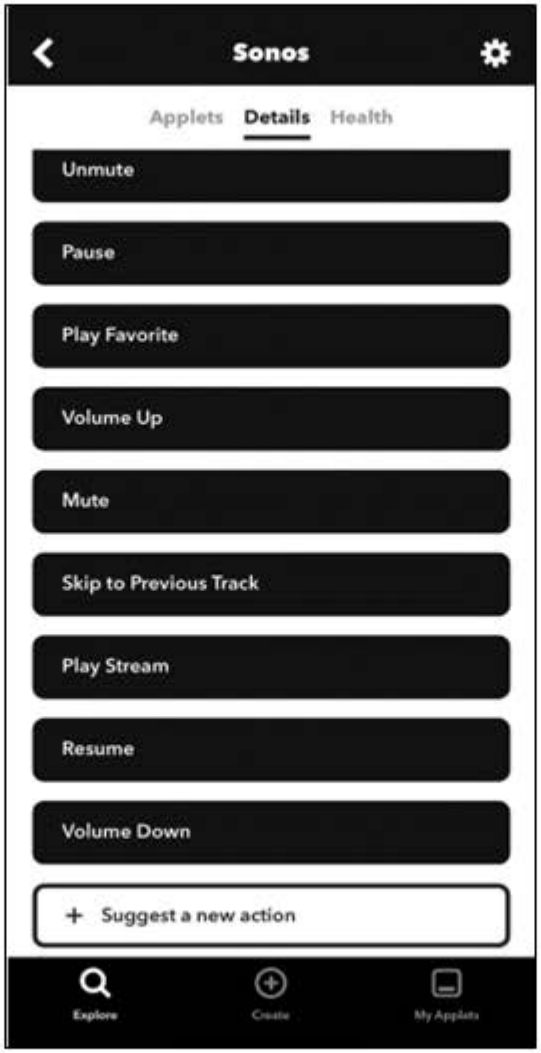
Sonos Patent Documents

- '885 and '966 Patents
- File Histories
- Claim Construction Material

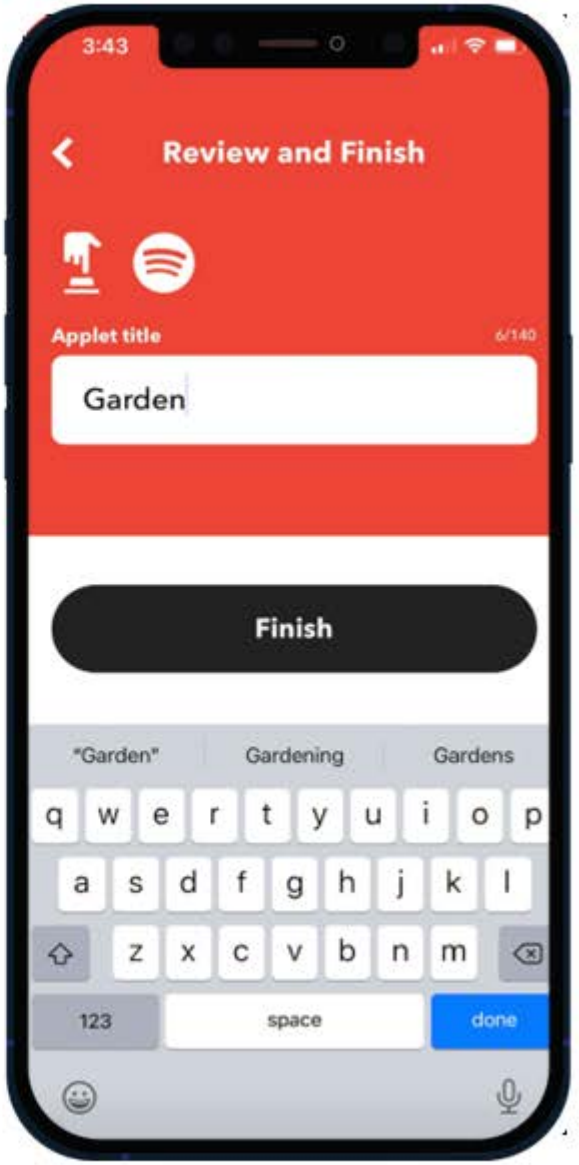
IFTTT Materials

- IFTTT Documentation
- IFTTT Website
- Testing and Use

IFTTT Functionality



IFTTT Functionality



IFTTT

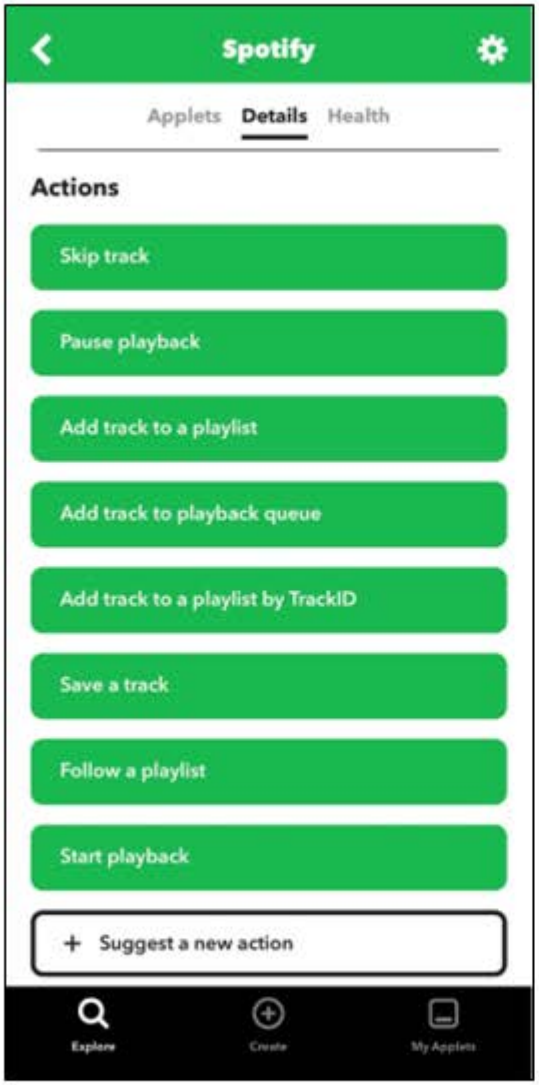
TX0442

IFTTT Functionality

IFTTT

TX0442
3:20-cv-06754-WHA

IFTTT Functionality



TX0442
3:20-cv-06754-WHA

IFTTT

Technical Comparability – Framework

- Must be **sufficiently related** to the case at hand
- Does not require **identity of circumstances**
- Necessarily involves an element of **approximation and uncertainty**

Technical Comparability – Conclusion

Asserted Claims	IFTTT Applets	Comparable?
'885 Patent Claim 1		✓
'966 Patent Claims 1, 2, 4, 6, 8		✓

Technical Importance

Technical Importance – Assignment

'885 Patent Claim 1	**Technical Importance?**	?
'966 Patent Claims 1, 2, 4, 6, 8	**Technical Importance?**	?

Technical Importance – Materials Considered

Sonos Patent Documents

- '885 and '966 Patents
- File History
- Claim Constructions

Google

Google Documents and Testimony

- Google Marketing Materials
- Google Promotional Materials
- Internal Documents / Emails
- Testimony of **Tomer Shekel**, Google Product Manager

Technical Importance – Conclusion

'885 Patent Claim 1	**Technical Importance?** ✓
'966 Patent Claims 1, 2, 4, 6, 8	**Technical Importance?** ✓

Tomer Shekel
Product Manager

Google

Q. Would you say it's an important feature for the music playback to not be disturbed while you set up new groups?

A. In my opinion, if by setting a group, you'll now be stopping the music a person played, that would not be a great experience for that user.

Deposition of Tomer Shekel, 99:9-16

Tomer Shekel

Tomer Shekel
Product Manager

Google

Q. Okay. So turning back to slide 18 of Exhibit 1255, would it be a poor user experience to limit speakers to just one group?

A. In -- in our -- in our approach, in the Google Cast approach, if we were to have only option that every speaker can only be part of one group, I -- I would think it's a – it's a poor user experience, yes.

Deposition of Tomer Shekel, 109:11-19

Tomer Shekel

Tomer Shekel
Product Manager

Google

Q. Would it be a poor user experience to kick speakers out of a prior group if they're added to a new group?

A. I feel -- or my opinion at that time was that that would not be a good experience for how Google Cast works, for the reasons I highlighted before when you asked me about the benefits and why we chose this one. So yes, that would not be a good experience, or it will be poor, maybe more specifically.

Deposition of Tomer Shekel, 109:20-110:5

Case No. 3:20-cv-06754-WHA
Related to Case No. 3:21-cv-07559-WHA

Sonos v. Google

Dr. Kevin Almeroth